

REMARKS

In the final Office Action¹, the Examiner rejected claims 1, 3-6, and 9 under 35 U.S.C. § 103(a) as being unpatentable over Schilling et al. (U.S. Patent No. 6,338,492, hereafter "Schilling"), rejected claim 7 under 35 U.S.C. § 103(a) as being unpatentable over Schilling in view of Sasaki et al. (U.S. Patent No. 6,337,120, hereafter "Sasaki"), and rejected claim 8 under 35 U.S.C. § 103(a) as being unpatentable over Schilling in view of Sakumato et al. (U.S. Publication No. 2002/0106954 A1, hereafter "Sakumato").

By this Amendment, Applicants amend claims 1 and 3-8, and add new claims 10-12. Support for the claim amendments and the new claims can be found in the specification at, for example, page 9, line 18 to page 10, line 18. Claims 1 and 3-12 are now pending.

Applicants respectfully traverse the rejection of claims 1, 3-6, and 9 under 35 U.S.C. § 103(a) as being unpatentable over Schilling, the rejection of claim 7 under 35 U.S.C. § 103(a) as being unpatentable over Schilling in view of Sasaki, and the rejection of claim 8 under 35 U.S.C. § 103(a) as being unpatentable over Schilling in view of Sakumato. No *prima facie* case of obviousness has been established.

"The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. . . . [R]ejections on obviousness cannot be sustained with mere conclusory statements." M.P.E.P. § 2142, 8th Ed., Rev. 6 (Sept. 2007) (internal citation and inner quotation omitted). "In

¹ The Office Action contains statements reflecting characterizations of the related art and the claims. Regardless of whether any such statement is identified herein, Applicants decline to automatically subscribe to any statement or characterization in the Office Action.

determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious.” M.P.E.P. § 2141.02(I) (emphases in original).

“[T]he framework for objective analysis for determining obviousness under 35 U.S.C. § 103 is stated in *Graham v. John Deere Co.*, 383 U.S. 1, 148 U.S.P.Q. 459 (1966). . . . The factual inquiries . . . [include determining the scope and content of the prior art and] . . . [a]scertaining the differences between the claimed invention and the prior art.” M.P.E.P. § 2141(II). “Office personnel must explain why the difference(s) between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art.” M.P.E.P. § 2141(III).

Here, no *prima facie* case of obviousness has been established, because the Office Action has neither properly determined the scope and content of the prior art nor properly ascertained the differences between the claimed invention and the prior art. Accordingly, no reason has been clearly articulated as to why the prior art would have rendered the claimed invention obvious to one of ordinary skill in the art.

Claim 1, as amended, recites a sealing structure for polymer electrolyte fuel cell comprising:

a sealing groove and an anchor groove coupled to a periphery of the sealing groove, ...

a sealing member positioned in the sealing groove and the anchor groove;
and

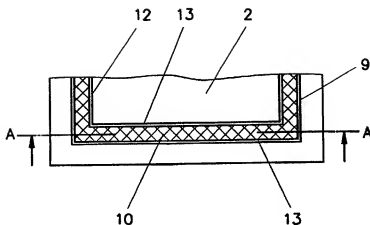
a gasket interposed between the bipolar plate and the membrane electrode assembly.

(Emphasis added). Schilling fails to teach or suggest all of these elements of claim 1.

The Examiner asserted, "[r]egarding claim 1, Schilling teaches a sealing structure for polymer electrolyte fuel cell comprising: a bipolar plate (2 and 3) with sealing groove (9) (see col. 3, lines 48-50) and a gasket (sealing element 10) interposed between said bipolar plate and a membrane electrode assembly (MEA 4; figure 1). Schilling further teaches an anchor (10 sealing element) in contact with said sealing groove (9) (col. 4, lines 23-35; figure 4B)." Final Office Action at 3. Further, the Examiner asserted, "the width of the anchor is a recognized known result effective variable whose determination would accordingly have been within the ambit of a person of ordinary skill in the art without undue experimentation." Final Office Action at 3. The Examiner's assertions are not correct.

Schilling fails to teach at least the claimed "anchor groove." Schilling, at column 4, lines 3-4, states, "FIG. 3A shows a top view of a section of a bipolar plate 2 which is provided with a peripheral groove 9." As evident from Figure 3A of Schilling, reproduced below, Schilling at best discloses that groove 9 is formed on a periphery of bipolar plate 2. Schilling does not disclose any groove structure that is coupled to a periphery of groove 9. To the extent that groove 9 of Schilling could possibly correspond to the claimed sealing groove, Schilling fails to teach or suggest, "an anchor groove coupled to a periphery of the sealing groove [and] extending toward an outer edge of the bipolar plate," as recited in amended claim 1.

Fig.3A



Accordingly, even though sealing elements 10 of Schilling are positioned in groove 9, nothing in Schilling could be reasonably argued to correspond to the claimed "sealing element positioned in the sealing groove and the anchor groove." Moreover, nothing in Schilling can correspond to the claimed "gasket."

Further, Applicants submit that amended claim 1 does not recite any effective variable or optimum width of the claimed anchor groove. Rather, amended claim 1 recites that "a width of the anchor groove is greater than a width of the sealing groove," (emphasis added). Moreover, the Examiner acknowledged that Schilling does not disclose that "the anchor width is greater than the sealing groove." Office Action at 3. Accordingly, Schilling fails to teach or suggest, "a width of the anchor groove is greater than a width of the sealing groove," as recited in amended claim 1.

In view of the above, the final Office Action has neither properly determined the scope and content of the prior art nor properly ascertained the differences between the

claimed invention and the prior art. Accordingly, no reason has been clearly articulated as to why the prior art references would have rendered the claimed invention obvious to one of ordinary skill in the art. Therefore, no *prima facie* case of obviousness has been established for claim 1, and claim 1 is allowable over Schilling.

Claims 3-6 and 9 depend from claim 1, and require all the elements recited in amended claim 1. "If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious." M.P.E.P. § 2143.03, quoting *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). Accordingly, claims 3-6 and 9 are allowable over Schilling at least due to their dependence from allowable claim 1.

The Examiner cited Sasaki as allegedly teaching subject matter recited in claim 7, and cited Sakumato as allegedly teaching subject matter recited in claim 8. Even assuming the Examiner's characterizations of Sasaki and Sakumato are correct, which Applicants do not concede, Sasaki and Sakumato still fail to cure the deficiencies of Schilling, discussed above. That is, Sasaki and Sakumato also fail to teach or suggest a sealing structure comprising "a sealing groove and an anchor groove coupled to a periphery of the sealing groove, ... a sealing member positioned in the sealing groove and the anchor groove; and a gasket interposed between the bipolar plate and the membrane electrode assembly," as recited in amended claim 1, and required by claims 7 and 8.

For at least this reason, the Office Action has neither properly determined the scope and content of the prior art nor properly ascertained the differences between the claimed invention and the prior art. Moreover, the prior art provides no teaching or suggestion that would motivate one of ordinary skill in the art to modify the prior art to achieve the claimed combination. Accordingly, no reason has been clearly articulated as to why the prior art would have rendered the claimed invention obvious to one of ordinary skill in the art. For at least this reason, no *prima facie* case of obviousness has been established for claims 7 and 8. Claim 7 is thus allowable over Schilling and Sasaki, and claim 8 is thus allowable over Schilling and Sakumato.

New apparatus claims 10 and 11, and new method claim 12 have been added. Each of these claims is allowable over the art of record.

In view of the foregoing remarks, Applicants respectfully request reconsideration of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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